

Listing of Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (currently amended) An aluminum based alloy, said alloy comprising:
1.0 - 2.0% by weight manganese;
a maximum of 0.6% by weight iron;
[less than] 0.001% to 0.003% by weight beryllium; and
the remainder being aluminum[, and
said alloy characterized by reduced die soldering when used in die casting
operations].

2. (currently amended) The aluminum alloy of claim 1 further comprising 2.5 - 4.0% by weight magnesium [and 0.001-0.003% by weight beryllium and] said alloy characterized by an elongation value of at least 17%.

3. (original) The aluminum alloy of claim 2 further comprising a maximum of 0.45% by weight silicon.

4. (original) The aluminum alloy of claim 3 further comprising a maximum of 0.10% by weight copper.

5. (previously amended) The aluminum alloy of claim 1 further comprising a maximum of 0.45% by weight silicon and said alloy characterized by an elongation value of at least 17%.

6. (canceled)

7. (currently amended) The aluminum alloy of claim 1 further comprising less than 1.75% by weight magnesium and wherein said alloy has an elongation value of at least 17%.

8. (previously amended) The aluminum alloy of claim 7 further comprising a maximum of 0.10% by weight zinc.

9. (previously amended) The aluminum alloy of claim 7 further comprising a maximum of 0.2% by weight titanium.

10. (previously amended) The aluminum alloy of claim 8 further comprising 4.2 - 5.0% by weight copper.

11. (previously amended) The aluminum alloy of claim 8 further comprising a maximum of 0.2% by weight cooper.

12. (original) An aluminum based alloy for use in forming a die cast product, said alloy having an elongation value of at least 17%, said alloy comprising

2.5 - 4.0% by weight magnesium;
1.0 - 2.0% by weight manganese;
0.25 - 0.6% by weight iron;
0.2 - 0.45% by weight silicon;
less than 0.003% by weight beryllium;
the remainder being aluminum.

13. (previously amended) The aluminum alloy of claim 12 further comprising 0.05 - 0.10% by weight copper.

14. (previously amended) The aluminum alloy of claim 13 further comprising a maximum of 0.10% by weight zinc.

15-18. (cancelled)

19. (previously amended) A structural article of manufacture comprising an aluminum alloy having a yield strength of greater than or equal to 11.95 kgf/mm² and an elongation value of greater than or equal to 18%, said aluminum alloy comprising

2.5 - 4.0% by weight magnesium;
1.0 - 2.0% by weight manganese;
a maximum of 0.6% by weight iron;
a maximum of 0.45% by weight silicon;
a maximum of 0.10% by weight copper;
less than 0.003% by weight beryllium;
the remainder being aluminum.

20. (currently amended) The article of claim [16] 19 wherein the aluminum alloy includes about 1.1% manganese by weight.

21. (currently amended) A die-castable aluminum alloy comprising:
0.25-0.70% by weight magnesium
1.0 - 2.0% by weight manganese;
a maximum of 0.2% by weight iron;
6.5-7.5% by weight silicon;
a maximum of 0.2% by weight each of additional elements selected from the group consisting of zinc, copper and titanium; and
the remainder being aluminum, [; and
said alloy characterized by reduced die soldering when used in die casting operations] wherein said alloy has an elongation value of at least 17% .

22. (original) The alloy of claim 21 in which a maximum of 0.1% by weight zinc is present as an additional element.

23. (original) The alloy of claim 22 in which a maximum of 0.2% by weight copper is present as an additional element.

24. (original) The alloy of claim 23 in which a maximum of 0.2% by weight titanium is present as an additional element.

25. (original) The alloy of claim 24 in which magnesium is present at 0.25-0.45% by weight.

26. (original) The alloy of claim 24 in which 0.04-0.07 by weight beryllium is present as an additional element.

27. (original) The alloy of claim 25 in which magnesium is present at 0.4-0.7% by weight.

28. (currently amended) A die-castable aluminum alloy comprising:
0.15-0.35% by weight magnesium
1.0 - 2.0% by weight manganese;
a maximum of 0.1% by weight iron;
4.2-5.0% by weight copper;
a maximum of 0.2% by weight each of additional elements selected from the group consisting of zinc, silicon, nickel, tin, and titanium; and
the remainder being aluminum,[]; and
said alloy characterized by reduced die soldering when used in die casting operations] wherein said alloy has an elongation value of at least 17% .

29. (original) The alloy of claim 28 in which a maximum of 0.1% by weight zinc is present as an additional element.

30. (original) The alloy of claim 29 in which a maximum of 0.05% by weight silicon is present as an additional element.

31. (original) The alloy of claim 30 in which a maximum of 0.2% by weight titanium is present as an additional element.

32. (currently amended) A method of producing components by die casting an aluminum alloy [with reduced die soldering], the method comprising the steps of:

providing an aluminum alloy having magnesium, zinc, silicon, copper, beryllium, titanium, nickel, and tin present in percentages by weight consistent with a known aluminum alloy;

maintaining the iron content of the provided alloy at or below the iron content of the known aluminum alloy;

adjusting the manganese content of the alloy to between 1.0-2.0% by weight;

heating the alloy to a temperature conducive to die casting;

casting a component from the alloy; and

removing the cast component from the die.

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